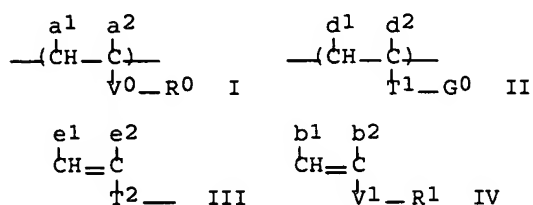


AN 118:244525 HCA Full-text  
 TI Liquid developer for electrostatography  
 IN Kato, Eiichi; Hattori, Hideyuki  
 PA Fuji Shashin Film K. K., Japan  
 SO Jpn. Kokai Tokkyo Koho, 39 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04095971	A2	19920327	JP 1990-208047	19900808
	JP 2640170	B2	19970813		
PRAI	JP 1990-208047		19900808		

GI



AB In an electrophotog. liquid developer containing dispersed resin particles in an nonaq. solvent having an elec. resistivity  $\geq 10^9 \Omega$  cm and dielec. constant  $\geq 3.5$ , the resin particle comprises an A-B block copolymer from an A block containing a polymer component and/or monofunctional monomer A having  $\geq 1$  of a phosphono group, carboxyl group, sulfo group, OH, formyl group, carboxamide group, sulfonamide group, amino group, P(O)R<sub>11</sub>OH (R<sub>11</sub> = R<sub>12</sub>, OR<sub>12</sub>; R<sub>12</sub> = hydrocarbon group, and cyclic acid anhydride group, and a B block. The B block contains a polymer component represented by (I): V<sub>0</sub> = COO, OCO, (CH<sub>2</sub>)<sub>11</sub>OCO, (CH<sub>2</sub>)<sub>12</sub>COO (11, 12 = 1-3) O, SO<sub>2</sub>, CO, CONR<sub>13</sub>, SO<sub>2</sub>NR<sub>13</sub>, CONHCOO, CONHCONH, phenylene; R<sub>13</sub> = H, hydrocarbon; R<sub>0</sub> = hydrocarbon; a<sub>1</sub>, a<sub>2</sub> = H, halo, CN, C<sub>1</sub>-8 hydrocarbon, COOZ<sub>1</sub> with an optional C<sub>1</sub>-8 hydrocarbon interposing group; and Z<sub>1</sub> = H, C<sub>1</sub>-22 hydrocarbon. The particles are prepared by polymerization of solns. containing a monofunctional monomer A, which is soluble in the above solvent but becomes insol. upon polymerization, and a monofunctional monomer MA, which has a number average mol. weight  $\leq 1 + 10^4$ , in the presence of a soluble dispersion stabilizing resin. The macromonomer MA comprises a repeating unit represented by (II): T<sub>1</sub> = COO, OCO, (CH<sub>2</sub>)<sub>1</sub>COO, (CH<sub>2</sub>)<sub>1</sub>OCO, O, SO<sub>2</sub>, CONHCOO, CONHCONH, COND<sub>1</sub>, SO<sub>2</sub>ND<sub>2</sub>, phenylene; D<sub>1</sub> = H, C<sub>1</sub>-22 hydrocarbon; 1 = 1-3; G<sub>0</sub> = C<sub>1</sub>-22 hydrocarbon with optional O, CO, CO<sub>2</sub>, OCO, SO<sub>2</sub>, ND<sub>2</sub>, COND<sub>2</sub>, and N(D<sub>2</sub>)CO; D<sub>2</sub> = similar to D<sub>1</sub>, d<sub>1</sub>, d<sub>2</sub> = H, halo, CN, hydrocarbon, COOD<sub>3</sub> with an optional hydrocarbon interposing group; D<sub>3</sub> = H, (un)substituted hydrocarbon, and a terminal group represented by (III): T<sub>2</sub>, e<sub>1</sub>, e<sub>2</sub> = similar to T<sub>1</sub>, d<sub>1</sub>, and d<sub>2</sub>, on only 1 end of the

repeating unit. The dispersion stabilizing resin comprises a graft copolymer containing a monofunctional macromer MM, which has a weight average mol. weight  $1 + 10^3 \cdot 2 + 10^4$  and comprises the B block having a terminal polymerizing double bond, and a monomer B represented by (IV):  $V1 = COO, OCO, (CH_2)_{13}OCO, (CH_2)_{14}COO, O$ ;  $13, 14 = 1-3$ ;  $R1 = C \geq 8$  aliphatic group;  $b1, b2 = H, \text{halo}, C1-6$  hydrocarbon group. The developer has improved properties of redispersion, storage, stability, image reproduction, and fixing, and is useful in making printing plates.

IC ICM G03G009-13

ICS C08F299-00

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other

Reprographic Processes)

ST electrophotog liq developer printing plate

IT Printing plates

(electrophotog. liquid developers for)

IT Electrophotographic developers

(liquid, dispersion compns.)

IT 118730-13-5P 125192-67-8P 134266-83-4P 137560-47-5P 138113-87-8P

138113-95-8P 138113-96-9P 138113-97-0P 138114-01-9P 138114-02-0P

138114-08-6P 138114-10-0P 138114-12-2P 138114-14-4P 138114-24-6P

138114-25-7P 138114-26-8P 138114-27-9P 138114-29-1P 138114-33-7P

138114-36-0P 138114-38-2P 138114-40-6P 138114-44-0P 143646-30-4P

147046-11-5P 147046-12-6P 147046-13-7P 147046-14-8P

RL: PREP (Preparation)

(latex, preparation of, for electrophotog. developer)

IT 139598-53-1P

RL: PREP (Preparation)

(preparation of, as dispersion stabilizer)

IT 139598-54-2P 139598-55-3P 139598-56-4P 139598-57-5P 139598-58-6P

139598-59-7P 139598-60-0P 139598-61-1P 139598-62-2P 139598-63-3P

139598-64-4P 139598-65-5P 139598-66-6P 139598-67-7P 139598-68-8P

139598-69-9P 139598-70-2P 139598-71-3P 139598-72-4P 139598-74-6P

139598-75-7P 139598-76-8P 139598-77-9P 139598-79-1P 139598-80-4P

139598-81-5P 139598-82-6P 139598-83-7P 139598-85-9P 139687-39-1P

147045-28-1P 147067-02-5P 147127-63-7P

RL: PREP (Preparation)

(preparation of, as dispersion stabilizer for electrophotog.

developers)

IT 25639-21-8DP, carboxy-terminated, 2-hydroxy-3-methacryloyloxypropyl ester

112955-45-0P	112955-56-3P	114512-15-1P	137646-74-3DP,	
acrylamide				
139104-82-8P	139104-86-2P	139104-87-3P	139104-90-8P	139104-94-2P
139104-96-4P	139105-01-4P	139105-03-6P	139105-07-0P	139105-08-1P
139105-10-5P	139105-12-7P	141348-77-8P	141349-31-7P	141414-91-7P
141415-10-3P	141415-33-0P	141415-66-9P	141440-78-0P	141759-32-2P
141759-91-3P	143709-75-5P	147130-23-2P	147130-24-3P	147130-26-5P
147130-28-7P	147130-29-8P	147130-30-1P	147130-31-2P	147130-32-3P
147130-33-4P	147130-34-5P	147130-35-6P	147130-36-7P	147130-37-8P
147130-38-9P	147130-39-0P	147130-40-3P	147130-41-4P	147130-42-5P
147130-44-7P	147130-45-8P	147130-46-9P	147130-47-0P	147130-50-5P

RL: PREP (Preparation)

(preparation of, for electrophotog. developers)

IT 138115-34-1DP, carboxylated, ester with 2-hydroxyethyl methacrylate  
138232-67-4DP, reaction product with 4-bromomethylstyrene, reduction product

of 139357-83-8DP, hydrolyzed, reaction products with ethylene oxide,

ester with methacrylic acid 139598-51-9DP, reaction product with 4-bromomethylstyrene , hydrolyzed

RL: PREP (Preparation)

(preparation of, in formation of dispersion stabilizer for electrophotog. toner)